Ethics and New Reproductive Technologies

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Feb. 2, 2010

According to John Harris embryos have no intrinsic moral worth, marking them out as special for moral and political purposes. Their moral significance, he claims, comes from their role in reproduction, rather than what they are: above all, from the social aspects of reproduction – the hopes and fears of people like us – rather than from biological facts about who is related, or not related, to whom.

From this draws he draws the conclusions that if there are no obvious safety problems, the law should let people use new reproductive technologies to seek the best life for their children, whether by selecting against embryos who are especially susceptible to cancer, say, or selecting for those who have some sort of special protection. Indeed, Harris would like it to be legally possible for people to choose the sex of their child in the UK, although the law currently forbids this.
It is important, he thinks, to distinguish reproductive from therapeutic cloning for moral and legal purposes, and supports changes in UK law which have enabled the copying of human embryos in order to explore treatments for research into treatments for Parkinson-s Disease, severe burns, diabetes and reconstructive surgery.

So, this talk, will outline JH's view of embryos and then relate it to contemporary moral and political debates over sex selection, the cloning of embryos and other possibilities created by new technology, highlighting the strengths and appeal of his view, before raising some qualifications to his claims, and some queries.

I will just start with some relevant terms and facts about reproductive technologies– very untechnically; then move on to JH's views in a recent paper, relate them to his position on enhancements in his recent book, *Enhancing Evolution.*

Let's start with some really basic terms, like gamete, zygote and embryo, whose precise meaning may be as unfamiliar to you as it was, until recently, to me. Then we can look at the meaning of terms like in vitro fertilisation, and the differences between therapeutic and reproductive cloning, before getting down to the detail of Harris' arguments.

A *gamete* is a way of referring to either the sperm or the egg, which fuse in human sexual reproduction. So, we can use the word 'gametes' when we are talking, so that we don't have to say 'sperms and/or eggs' all the time.

A *zygote* is a fertilized ovum/egg

And an *embryo* refers to a fertilized egg until it is eight weeks old – whether the egg is developing inside the human body, or in a Petri dish in a lab. After eight weeks, the fertilized egg is called a *fetus*. So, ethical controversy about the treatment of embryos concerns the ethics of creating, using and destroying fertilised human eggs that are no older than eight weeks old.

Assisted reproductive technology (**ART**) is a general term referring to methods used to achieve pregnany by artificial or partially artificial means. It is reproductive technology used primarily in infertility treatments. Some forms of *ART* are also used in fertile couples for genetic reasons or to help couples to achieve pregnancy, or where one member of the couple is suffering from a communicable disease, such as AIDS.

In vitro fertilisation (**IVF**) is a process by which egg cells are fertilised by sperm outside the womb, *in vitro*. IVF is a major treatment in infertility when other methods of assisted reproductive technology have failed. The process involves hormonally controlling the ovulatory process, removing eggs from the woman's ovaries and letting sperm fertilise them in a fluid medium. The fertilised egg is then transferred to the patient's uterus with the intent to establish a successful pregnancy. The first "test tube baby", Louise Brown, was born in 1978.

Cloning is a form of copying; so if we clone human DNA/ or other genetic material, we reproduce or copy it. If we clone a human embryo, we copy or reproduce a fertilized egg that is not yet old enough to be called a fetus. It will, therefore have exactly the same genes as the original, though the significance of this fact for the traits and possibilities of any resulting beings are hard to determine. Genes are only a small part of what makes us who we are: so there is no reason to suppose that cloning Stalin's genes means recreating a mass murderer, or even a man with a distinctive moustache, and this, of course, would be just as true if someone had both the desire and ability to clone the genes of Hitler.

Therapeutic cloning involves taking the nucleus out of a human egg cell and, in its place, putting in the nucleus of a cell from some non-reproductive part of the human body – a skin cell, say, or a retinal cell. In therapeutic cloning, no sperm fertilisation is involved nor is there implantation into the uterus to create a child. The aim of the

process is to discover how skin cells or retinal cells develop, or to create new skin cells or retinal cells which can be used to help people with severe burns, for example, or who are facing blindness.

Therapeutic cloning is medically significant because it would enable us to create new bone marrow and new organs, like kidneys, for transplant, using a patient's own cells. This would be important for three main reasons: first, that there is a severe, and ever-growing shortage of kidneys and other organs for transplant, so if we could create new ones using people's own cells, this would save many, many lives and a great deal of misery.

Secondly, therapeutic cloning would help to the risk that a patient will reject their transplanted organ or bone marrow, because the organ would come from their own cells. This would be a major advance, because even where transplants are obtained from siblings and other near relatives, the patient's body may reject the transplant, leading to the patient's death.

Finally, if we could control or limit the rejection of transplanted organs by using a patient's own cells to create the organ, patients might be spared the need to take immuno-suppressing drugs for the rest of their lives, in order to prevent the rejection of their new organs. As we all need our immune system to help us fight infections, the burden of taking such drugs is very real, and itself poses a serious risk to the health of transplant patients.

Therapeutic cloning, however, is ethically controversial because at present embryos are used to create the eggs and stem cells which are used in the process. This is the main reason why some people consider it to be morally wrong – whatever the benefits which it might create.

Reproductive Cloning refers to the use of cloning in order to reproduce an organism – be it a cat, a dog, 'Dolly' the sheep, or even a human being. At present there is no possibility of cloning a human being, and trying to do so would be illegal in the UK, the EU and the USA.

However, reproductive cloning can also refer to the effort to copy or clone human eggs.or sperm (human gametes), which can then be fertilised with some one else's gametes and implanted in a human body. The aim of this form of reproductive cloning is to enable people who are infertile to have genetic children of their own. At present human eggs have never been successfully cloned, although this summer a laboratory in Newcastle claimed successfully to have created very early human sperm.

You may have heard of this – the newspapers referred to the results as 'artificial sperm'- and caused a lot of excitable speculation about a world in which women only needed a man's skin cell to reproduce, and in which male sperm would no longer be necessary for human sexual reproduction. But before turning to such exciting/unnerving possibilities, let's look at John Harris' ideas about the moral value of embryos, and their practical significance for the ethics of reproduction.

JH's Views on the Moral Value of Embryos

The events of the past fifty years have enabled people to separate genetic reproduction from social reproduction in ways that were previously only possible by adoption, by unpredictable forms of contraception, crude and dangerous efforts at abortion, or by infanticide. It is now possible – at least in principle – to gestate and bear a child who is not one's genetic relative– by using the egg and sperm of friends or strangers; and it is increasingly common, in wealthy countries, for couples to use a stranger's eggs or sperm in order to share in the gestation and birth of a genetically related child, despite the infertility of one of the couple. The alternatives, which existed prior *to in vitro fertilisation*, was for the fertile member of the couple to have sex with someone else and then to adopt the resulting off-spring - or for the couple to accept that any offspring of theirs would not be genetically related to either of them.

Of course, there is something a bit misleading about the last sentence, in that all of us have genes which are 99.9% the same as each other – (and over 90% the same as that of non-human animals). So the idea that adopting some one else's child is to have a child who is genetically unrelated to us is an overstatement. Still, when we talk of genetically related children – or reproducing our genes – we are normally concerned with reproducing that tiny fraction of our genes which differentiates us from other people – that .1% - so I'm going to stick to ordinary usage in this respect.

An embryo, then, is a unique genetic entity, even if most of its genes will be found in other people, and even in animals, such as worms, with whom we to feel little affinity. What makes the human embryo morally special, according to Harris, is the hopes and fears that we invest in it, given its role in human reproduction, rather than that .1% of genetic material which makes it unique. The moral importance of embryos, he believes, arises because people want to found families with children who they care for and love, and who, they hope, will come to care for and love them, in return. So, for Harris, embryos are morally important chiefly because of their role in reproducing families – whether genetically related to us or not – and not because there is something intrinsically important about that .1% of unique human DNA, or that 99.9% of DNA which any human embryo will share with the rest of us. And what can be said of human embryos, he believes, can also be said of gametes – of human

eggs and sperm, as well: what makes them morally important is their role in human reproduction, and not the fact that they are, themselves, early forms of human life.

Harris supports this claim with one hypothetical example and several facts about human embryos. They hypothetical example is this: there is a hospital which is burning down. It contains 100 embryos and one 5 year old child. We can save the child or the embryos. Nobody, he thinks, would seriously consider doing anything else than saving the child.

Of course, we might think that Harris' example is a bit confusing, in that a five year old child can suffer fear and pain, whereas embryos cannot. So, this might tell us merely that in a fire, we should rescue those who are will suffer terror and pain, before worrying about those – such as comatose adults – who would not. Still, if we replace the five year old child with a comatose adult – and then consider trying to choose between one comatose adult and 100 embryos, I suspect that most of us would still feel that the choice was obvious. This does not show us that human embryos (however few or numerous) are morally insignificant, but the ease with which we may find ourselves ready to save other things - including, perhaps, specialised lab equipment, or a much-loved photo - rather than those 100 embryos, casts doubt on the idea that embryos in and of themselves have special moral value.

Moreover, Harris notes, when people are upset about a miscarriage, what they are normally distressed by is the loss of the much-hoped for child that the embryo might have become, not the death of the embryo itself. Embryos die all the time, without us noticing or lamenting their passing. About 70% of fertilised eggs either fail to implant in a woman's uterus, or fail to stay implanted. So, Harris maintains, it is absurd to attach special moral importance to embryonic forms of human life simply because it is human life, when human sexual reproduction itself is inevitably accompanied by, and perhaps even requires, the wholesale destruction of human embryos, whether we are aware of this destruction or not.

Say we agree with Harris – if just for the sake of argument. What conclusions should we draw about the ethics of reproduction, or the appropriate treatment of human gametes and embryos?

The first thing, we should conclude, according to Harris, is that we must distinguish the moral and legal norms which should govern gametes and embryos as they are to be used in human reproduction from the moral and legal norms which should govern their use in research, or for purposes other than reproduction. So, he believes, it is morally wrong to destroy healthy gametes and embryos which have been donated or created so that people can use them to try to have a baby. By contrast, he thinks, there is nothing inherently wrong in destroying healthy gametes and embryos in the interests of research, or in the process of creating stem cells for study, or for therapeutic cloning.

If we are not perturbed by the death of human embryos as a result of human sex and reproduction, he thinks, it is absurd to be distressed by their death in a lab. Most of the embryos which die in a woman's body are only five to eight days old. Their cells will not yet have begun to specialise, and so are capable of becoming almost any type of human cell. That is why this is the stage – 5 – 8 days after fertilisation, when the stem cells of laboratory embryos are harvested, thereby destroying the embryo. If the mass destruction of five to eight day embryos in the course of normal sex and reproduction leaves us unmoved, as it seems to, Harris thinks that we should conclude that there is nothing intrinsically wrong with destroying 5 – 8 day old embryos in a laboratory. He is quite prepared to say that we can be morally wrong to use or destroy embryos in particular circumstances – because it is wrong to waste things, for example. But according to Harris human embryos and gametes which are not specifically intended by humans to be used in human reproduction have no special moral value themselves, so the ethics of using and destroying them will be largely he same as the ethics of using and destroying other scarce or valuable biological materials.

If Harris is right, then, there is nothing intrinsically troubling about IVF, even though the process of IVF often leads to the destruction of human gametes and embryos which are either damaged or too numerous safely to be implanted in a woman's body. At present women are often able and willing to donate eggs they don't need to other women, or to donate them for use in research, and they are sometimes able to freeze their eggs in the hope of using them later. Harris would clearly be happy to encourage

all these uses of eggs, in preference to their destruction, and I suspect that he would think it morally wrong to destroy one's eggs rather than donating them to another woman who wants them in order to reproduce, or for the purposes of medical research. It is wrong to force people to rear their genetic children if they do not want to and, he believes, a woman's claims to bodily integrity make it wrong to force her to gestate and give birth to a child. But he denies that we have an absolute right not to reproduce our DNA, and so rejects the idea that we have rights of reproductive liberty which mean that we are always morally entitled to prevent other people from using our genes to reproduce, or completely to prevent the reproduction of one's genetic progeny.

Clearly, Harris' claims are controversial and, at present, inconsistent with UK law and with the decision of the European Court of Human Rights, although not with a minority of the Justices in *Evans. V. UK*, 2006 EHHRR 21, or with the law in other European countries. I will be happy to discuss the ethical challenges posed by our ability to freeze fertilised embryos, and the legal dilemmas these raise. But his belief that we have no absolute right not to reproduce our DNA seems consistent with the idea (1) that we are not morally entitled to force others to use contraceptives when they have sex with us; (2) that we are not morally entitled to force women to have abortions; and (3) that the value of the human embryo comes overwhelmingly from its role in human reproduction, and not from the fact that it is, itself, a form of human life.

Harris on Sex-Selection

According to Harris, there is nothing intrinsically wrong with selecting the sex of one's child, and nothing intrinsically wrong in failing to do so. In both cases our actions may be morally wrong because they are selfish, thoughtless or venal; and in both cases the consequences of our actions may be bad. But because the destruction of embryos in the process of reproduction is not morally wrong, and because women and men can both be full moral agents, and capable of leading worthwhile, even wonderful lives, there is nothing in sex-selection itself that makes it immoral.

Of course, there is the worry that if people are allowed to choose the sex of their children we may end up with damaging imbalances in the population – some countries having 'too many' men compared to women, others having 'too many' women compared to men. But this can occur even in the absence of new reproductive technologies, via exposure and infanticide. However, the combination of ultrasound, abortion, contraception and pre-implantation techniques for sex-selection have made this worry much more pressing, as have pre-implantation techniques for sex-selection. Such pre-implantation techniques include sperm sorting – whereby the x and y chromosomal sperm are separated, and only the desired chromosomal sperm is used to fertilise a woman's egg, whether through artificial insemination or through in-vitro fertilization. Alternatively, embryos can be created through in vitro fertilisation, and only those with the desired sex-chromosomes would then be implanted in the woman. Though these techniques are not guaranteed to lead to implantation, let alone to a successful pregnancy and birth, they enable people to control the sex of their offspring without aborting a viable fetus or killing a healthy baby.

Harris believes that the only reason for the state to regulate pre-implantation sex-selection is to ensure that it is safe, and in order to avoid dangerous imbalances in the sexes – assuming that we know roughly what these would be. While people can be morally wrong to choose the sex of their child, the state should not be in the business of forcing people to behave morally, and so should not seek to make all immoral behaviour illegal. In order to alleviate anxiety about the consequences of letting people choose the sex of their child, he suggests that the government allow people to apply for one of a limited number of licenses which would enable them to do so. As it is legal, in the UK to use sex-selection to avoid having a child with an inheritable disease, licenses would be unnecessary in these cases. However, allowing a supervised and relatively limited number of sex-selections based simply on parental preference, he thinks, would enable us to anticipate any bad consequences from legalisation and, if they are not forthcoming, to let people choose the sex of their offspring legally.

Harris on disability/enhancement.

We might, however, worry that Harris has missed the salient fact that, in most places in the world, it is a disadvantage to be a girl rather than a boy, a woman rather than a man – and those disadvantages can be extraordinarily severe. So, while Harris is surely right that women are the moral equals of men (and vice versa), we may wonder if the preference for one embryo rather than another, based solely on their sex, is as morally neutral as he claims.

It is, however, easy to see that the choice of sex, pre-implantation, is a good deal less morally fraught than the choice amongst embryos based on their abilities or disabilities. All else equal, Harris maintains, we should prefer to give birth to healthy, rather than unhealthy, children; and we should therefore prefer to implant healthy rather than unhealthy embryos – an embryo with no known risk of breast cancer, say, rather than one that carries a gene which enhances the risk of breast cancer. This does not mean that it is morally wrong to implant an unhealthy embryo, so long as any resulting child would have a life worth living. But Harris clearly does believe that it is morally wrong to implant an embryo with a known disadvantage or disability in preference to one that has no known disadvantages or disabilities, and this conclusion would set him at odds with some disability-rights campaigners and theorists.

I am sure that we will want to discuss this issue more in a moment. But before closing, I want briefly to lay out Harris' position. It is morally wrong to discriminate against people because they are in some way disabled – and our laws should reflect the belief that disabled people are of as much moral value as the greatest intellects, sporting heroes and artists we have who are not, themselves, disabled. But this, he thinks, has no bearing on the choice between two embryos, one of whom is in some way disabled and the other of which is not. Their moral value is the same, qua embryo, nonetheless, he believes, we should prefer to implant the latter, rather than the former, because it is morally better to bring a healthy child into the world than one who is disabled. There is, he believes, nothing intrinsically wrong with bringing a disabled child into the world, so long as their life will be worth living – and this is generally the case. However, it is morally wrong to prefer a disabled to a healthy

embryo even if both will have worthwhile lives, just as it would be wrong knowingly to disable one of two healthy embryos, even if both would still result in children whose lives were worth living.

Harris' position seems to imply that the moral wrong involved in preferring to implant the disabled embryo compared to the healthy one may not be very great – how great it is probably depends on how disabled the disabled embryo is relative to the healthy one, when they both are consistent with babies whose lives are worth living. However, I'm sceptical that it is as bad to prefer the disabled one as to cause a disability in an otherwise healthy embryo, though Harris seems to think that the two are equivalent. How bad it is to disable a healthy embryo, for Harris, will depend on what we want the embryo for – for research, or for reproduction – as well as how badly damaged it is. By contrast, I would imagine that the motives for disabling a healthy embryo must figure in explaining the moral badness of this – just as it would if we damaged a cat, injured a person, or broke a table – or wanted to implant a disabled rather than a healthy embryo. And I would expect this to explain my hunch that it is morally worse to disable the healthy embryo than to implant the disabled one. So while I agree with Harris that embryo selection need not devalue the lives of other people, and may even be a moral duty in some circumstances, the strength of that duty is hard to determine, and what it implies for state support of reproduction is hard to say.

It is here, that we best see the strengths as well as the weaknesses of Harris' ideas. Their strengths, I think, is the insistence that the ethics of reproduction centrally turn on the importance people attach to forming families and raising children. Hence, the ethics of reproducing ourselves – whether through unaided sexual reproduction, technically aided sexual reproduction, or through other means, such as adoption – depend on the ethics of our desire to form families. So, for Harris, resolving controversies over the ethics of creating, using and destroying human gametes and embryos depends not on inevitably abstract and controversial claims about intrinsic value of human life, or of universal human rights. Instead, it depends on describing and assessing quite specific harms and benefits to people who are seeking to form families and raise children in circumstances which may not be ideal, and according to

values which may be mistaken or controversial, but which are, nonetheless generally consistent with living a worthwhile human life.

I find this an attractive position in itself, and a useful way to avoid confusing matters that are likely to be quite ethically complex and sensitive enough, even if we try to avoid overblown rhetoric, or misrepresenting the views of those with whom we disagree.

Still, Harris tends to avoid examining the moral status of our desire to form families, despite its centrality to his own account of the ethics of reproduction. The moral status of that desire, after all, is far from evident, especially in a world that suffers from over-population and in which current people, even in our own society, so often lack the things that makes life valuable, or even bearable. Moreover, even people who highly value family life will generally believe that it is wrong to force people to marry, have sex, or have children simply in order to create new families. So I suspect that we will have to dig more deeply into sensitive and controversial questions about why people want children, and what status we should attach to those desires, if we are better to understand the ethics of reproduction. Harris is right to suppose that new technologies do not change the moral issues fundamentally, or require us to alter our estimation of the moral importance of human life, human gametes or human embryos. But the conclusion I draw from that is that we cannot distinguish the ethics of reproduction from familiar moral and political principles, and this means that we need to pay more attention to these than Harris typically does, if we are to resolve controversy in this area.

NB other issues: **the base-line of 'a life worth living'. Seems very low, but also terribly vague.** Can see why this looks like the right standard to use when deciding if we have harmed someone by bringing them into the world (or bringing them into the

world with a disability) but wonder whether it is a *sufficient* test, even if it is a *necessary* one.

Also, am not really happy with his treatment of the deaf-embryo case; or its parallel in the case of all those parents who, faced with the uncertainties and difficulties of life, are filled with anxiety about their relationship to, and the fate of, a child who is significantly unlike them, or has desires significantly unlike theirs. Not just deaf parent, but the professional banker whose son wants to be an artist; the working class mother whose daughter has the chance to go to grammar school, college, law school…etc.

Finally: his right to reprod is purely negative; means that what it entails depends critically on what resources we have; what other people decide to do with theirs, and so on – although he thinks we have a duty to further medically beneficial research and, even to participate in it. But…no rights to assistance, no sense of the relative strength of these rights of reprod liberty compared to other rights, and other moral claims. ….so, what his moral duties amount to, how stringent they are, is often hard to establish. ……